

New Regulation Requires Provision Of Pump-out Service For Boaters By Marinas

Pump-out facilities for pleasure boats cruising Ontario waterways will be in greater abundance as the result of a regulation, made by the Ontario Water Resources Commission and approved by the Ontario government, requiring commercial marinas to install or to arrange elsewhere for pump-out facilities.

Commercial marinas are those which provide services for pleasure craft with heads (toilets) and include marinas operated by yacht clubs. Additionally, the regulation, which was announced early in July, required the immediate installation of litter containers at all locations servicing pleasure boats. The pump-out facilities are

to be installed and operational by August 26.

It is anticipated that an extensive

network of pump-out stations will be completed and made available throughout the province as a result of



OWRC BOAT INSPECTION STAFF range throughout the province to ensure that pleasure craft are complying with waste disposal regulations.

the regulation. Currently, the service is offered at about 120 locations in Ontario.

The Ontario marina regulation is unprecedented in jurisdictions surrounding the Great Lakes, though the state of Michigan has legislation coming into effect January 1, 1971 which, it is said, will ensure pump-out facilities in about 90% of the marinas in the state.

A regulation requiring pleasure boats with heads to install holding tanks was implemented by OWRC in January 1969. In line with this, over 1,000 pleasure boats have been inspected by OWRC boat inspection staff, to date, this summer.

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Water management in Ontario

VOL. 3, NO. 4

JULY/AUGUST, 1970

Introduces Criteria

Program Establishes Guidelines For Water Quality Management

Development of a far-reaching program establishing specific public guidelines and criteria for the management of water quality in all areas of the province was announced in June by Donald J. Collins, chairman of the Ontario Water Resources Commission, and George Kerr, minister of energy and resource management. In effect the new guidelines establish water management standards on the basis of present and future river and lake use. This is a concept which has been researched and developed over the past four years by the Commission.

The new program introduces water quality criteria for the most significant uses of water, including, public, agricultural, and industrial use, recreation, the propagation of fish and wildlife, and aesthetic enjoyment. Use of a watercourse for assimilation and dilution of treated wastes must be taken into account in the consideration of all other desirable uses of water under the program. Application of the criteria to water uses throughout the province will establish standards which, in turn, will determine the degree of treatment required for the control of water pollution.

PLANNING FOR FUTURE

The program will require planning for the future use of river basins in conjunction with the overall population growth and economic devel-



DONALD J. COLLINS
Announces new guidelines

opment of each section of Ontario.

The requirements of municipalities, industries, farming and conservation will be assessed and taken into account in the implementation of the new water management criteria. These will be determined through consultation, cooperative investigation and public meetings wherever present and proposed future use is in conflict.

Additional highlights of the new program:

- New standards regulating effluent and land drainage will be established by OWRC, where required, to maintain acceptable water quality. More stringent methods of controlling or treating waste inputs and land drainage may become necessary as the use of water changes or increases, or as standards are redefined.

- All wastes prior to discharge must receive the pre-engineered practicable treatment or control based upon

the criteria of the receiving stream. Such treatment must be adequate to protect and wherever practicable upgrade water quality in the face of population and industrial growth, urbanization and technological change.

- Water of a higher quality than that required by the standards will be maintained at that higher quality unless, in the public interest, an alteration of the quality is consistent with the protection of all uses which are in accordance with the water quality standards established.

The guidelines, therefore, must be realistic and safeguarded.

- Responsibility for demonstrating that a waste effluent is not having an adverse affect on water uses will rest with those causing the discharge. Zones adjacent to outfalls in which water quality may be critical in order to maintain the prescribed water uses will be indicated by the Commission. These will be continuously monitored to assess quality.

DEVELOPED FROM INQUIRY

The report is the result of an extensive inquiry developed by a committee composed of a number of scientific disciplines represented by W. A. Steggles, Supervisor, Water Quality Surveys branch (chairman), A. B. Redekopp, supervisor, water works, division of sanitary engineering; D. N. Jeffs, asst. director, division

Continued on back page

Commission Survey Program Investigates Thames River

Twelve-hour shifts were the order for Ontario Water Resources Commission water quality investigators conducting an intensive three-day survey early this summer in the London vicinity of the Thames River.

The operation was part of a three-year program initiated by the Commission to re-evaluate the waste assimilation qualities of the river in order to plan for future development. This year, investigations are centering on evaluating effects of discharges in the London area on downstream water quality and uses.

DAY AND NIGHT SAMPLING

Twelve samplers, working on a continuous day and night basis, were backed up by technologists and technicians at OWRC's London laboratory (who aided in the analysis of samples during the intensive survey). Additional analytical data was provided for the investigators by automatic 'robot' monitoring equipment located at

three strategic points in the survey area.

A constant flow in the river—necessary to permit accurate evaluation of data—was maintained by the Upper Thames Region Conservation Authority during the 72-hour period. Command centre for the operation was London's Greenway sewage treatment plant.

HELP SET STANDARDS

The overall study is in line with a program announced recently by D. J. Collins, chairman of OWRC, establishing specific guidelines and criteria for the management of water quality in all areas of the province. Basically—through the introduction of water quality criteria for the most significant uses of water, including water supply, waste assimilation, recreation, aesthetic enjoyment and the propagation of fish and wildlife—the new guidelines establish water management standards on the basis of present and future river and lake use.



'ROUND THE CLOCK SURVEY on Thames River was directed by OWRC engineer John Ralston. Greenway treatment plant was the command centre.

Over 400 Register For Industrial Waste Conference



A record breaking attendance was achieved at this year's industrial waste conference. Over 400 delegates officially registered for the three-day program held June 7-10 in Niagara Falls, Ontario.

The increase in attendance continues a steady trend. With few exceptions, through the years, each consecutive conference has attracted greater interest.

This year delegates heard and discussed some 16 papers dealing with various aspects of industrial waste management. For the sake of clarity, the conference was divided into five technical sessions.

Among the highlights on the agenda was a dinner address by Dr. E. G. Pleva, professor of geography at the University of Western Ontario, in which he considered the 'meaning of megalopolis.'

As usual, there was a well-attended ladies' program.



Above: Head table gets a hand at annual banquet. Right: Dr. E. G. Pleva of the University of Western Ontario discusses the 'Meaning of Megalopolis' in Keynote dinner address.



Shell Representative Says Industry Must Accept 'Survival Challenge'

Delegates to the 17th annual industrial waste conference were described as "doctors" to a "waste by-product epidemic" in a paper by a Shell Canada waste

treatment specialist.

Pointing to the number of disciplines relevant to pollution control represented at the conference, T. A. McIver, Shell technical superintendent, said the delegates have the ability to participate in pollution abatement to a far greater degree than the average citizen and "must shoulder a larger share of this survival challenge."

Mr. McIver said that, by and large, the physical means of pollution abatement are available. "It is a problem wherein our efforts towards success must begin with the establishment of a realistic involvement attitude," he said. "Delays on the part of management to appropriate necessary funds to correct known pollution sources are partly an attitude problem, in

the same sense as the plant operator who carelessly opens contaminating wastes to receiving waters. We must first correct the attitude insensitivity and then step by step work towards making each individual plant a conservation success as well as a financial success."

Describing a program initiated by Shell at its Corunna plant to educate plant personnel to a higher level of awareness and involvement in pollution abatement, Mr. McIver said that money alone is not the answer to industry's current pollution dilemma.

"In any plant, large sums can be spent on abatement facilities and, in themselves, these devices simply become changes to the landscape unless the operators who man-

ipulate them do so with both purpose and intelligence."

Mr. McIver said that the Shell educational program, implemented last year, took the form of a two-section, four-hour course. Attendance at the lectures during the course was restricted to approximately seven or eight employees to establish a suitable atmosphere for communication.

"I was surprised at finding that outside of oils in our effluent water, our men knew nothing or very little about other serious pollutants," he said. "These men have worked in our plant for an average of five to 10 years—yet not one of them could tell me why phenols were regarded as a major offender. To them phenols were something that the company didn't like in the effluent water and, therefore, had separate facilities to collect and dispose of them. Not one knew that phenols were an extremely effective and non-selective killer of bacteria." He added that marked improvements in the handling of wastes by the operating personnel were noticed after the lectures.

While detailing steps taken by Shell at its Corunna refinery to curb pollution, Mr. McIver said there is "no room for complacency and long term efforts must be directed towards utilizing the benefits of technology without irreparably damaging our environment."

"Without a realistic corporate policy, that is a positive and community responsible corporate attitude, the establishing of objectives becomes an exercise in frustration and futility."



T. A. McIVER
Correct the attitude insensitivity

Application Of Automatic Meters Discussed At Conference

Application of submersible recording current and water quality meters in water management programs was discussed by OWRC environmental engineer, Merv Palmer, at this year's industrial waste conference. Current meters record direction, velocity and temperature of water at a fixed time interval while water quality meters record such factors as pH, conductivity, turbidity, dissolved oxygen, and temperature at a fixed time interval.

CONTINUOUS ANALYSIS

One of the advantages of the meters said Mr. Palmer, is that they can provide a high degree of continuous analysis inexpensively — a basic requirement for both process control and modelling. However, he said, "it is unlikely that the meters will replace laboratory analysis and should be envisaged as an extension and amplification of laboratory analysis. A good system for data processing of the

meter results is probably the weakest link in the operation of the meters presently".

Mr. Palmer said that a detailed understanding of characteristics of water in the nearshore areas of the Great Lakes is essential to protect the resource for water users. It is frequently difficult to arrive at a valid conclusion concerning the quality of the environment without lengthy records to define variations in biological, chemical and physical characteristics of a water area, he explained — "Recording meters and computer modelling are being employed by OWRC in both the planning and design phases of intakes and outfalls."

A DEVELOPMENT ACT

He added that, besides providing information indicating the best location for water intake and waste outfalls in an area under development, use of recording meters can provide data valuable in establishing acceptable discharge concentrations.

As an illustration of the usefulness of the meters in water management programs, Mr. Palmer presented a case history showing the relevance and application of meter data. Noting that the first quality

meters employing sensors appeared in North America in the late 1950s, he said the recent development of more sophisticated sensors opens the door to even more extensive applications in the future.



MERV PALMER
A detailed understanding is essential



OWRC REPRESENTATIVES (l. to r.) K. H. Sharpe, assistant general manager, D. S. Caverly, general manager, L. E. Venchiariutti, commissioner, and D. J. Collins, chairman, listen as Mr. Kerr introduces report.

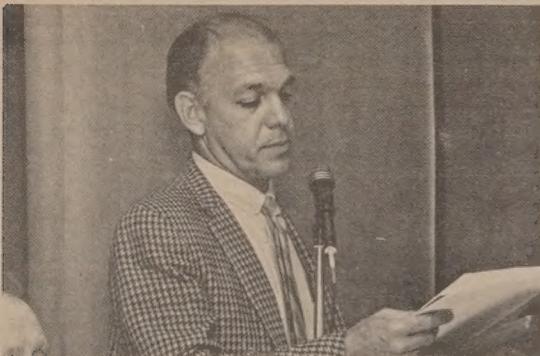


MINISTER OF ENERGY AND RESOURCES MANAGEMENT, George Kerr introduces report on alternative proposals for future supply of water to Kitchener-Waterloo.

Towards A Water Supply Plan



R. G. TREDGETT OF PROCTOR AND REDFERN, who prepared the report, details it to the meeting.



Report was endorsed by J. Bauer, chairman of the Grand River Conservation Authority.



MEETING WAS WELL ATTENDED by representatives of the local media here shown studying the proposals at press table.

A new first took place recently when a public meeting was held in Kitchener, under provincial auspices, to discuss water supply problems in the Kitchener-Waterloo area.

The meeting was held under the chairmanship of Hon. George Kerr, minister of energy and resources management.

Base for the discussions was a report, commissioned by OWRC from the consultant firm of Proctor and Redfern, which summarized proposals that had been made to solve the water supply problems.

A good water supply is critical to development in the area so the meeting was well attended by the press and public as well as governmental officials.

At the end of the meeting it was agreed that OWRC would present alternative cost proposals for the provision of water from Lake Huron and Lake Erie.



ALDERMAN C. WARD of Brantford comments on the proposals contained in the report.



MAYOR OF KITCHENER, S. M. McLennan agrees to consider alternative OWRC proposals to solve area problems.



Left: OWRC chairman Donald J. Collins summarizes Commission position with regard to water supply problems. Above: Mr. Kerr explains relevance of meeting to Kitchener television interviewer.

Published bi-monthly by the Ontario Water Resources Commission
Public Relations and Information, 135 St. Clair Ave. W., Toronto 195,
Ontario for those interested in the many facets of water management.
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An Atmosphere Of Commitment...

It is always interesting to attend the industrial waste conference for, more than any other conference, it reflects the state and status of pollution control in industry.

Listening to the papers is like being given a cross-sectional glimpse of the problems that must be contended with by industries throughout the province.

ACCEPTANCE OF GUIDELINES

What was encouraging in this year's conference was evidence, reflected in the papers, of a far more positive attitude towards pollution control than is generally suspected by the public—an acceptance of the necessity for guidelines laid down by OWRC and an obvious effort and general determination to comply with them.

Though pollution problems considered at the conference were invariably shown to be complex, the discussions revealed, too, that in many cases complex methods had been evolved to deal with the problems. In fact, compared to just a few years ago, when industry as a whole could be justly accused of heel-dragging, this year's conference suggested a progressive new militancy.

INCREASING COMMITMENTS

It was obvious this year more than ever that industry is making ever-increasing commitments to pollution control in purchasing expensive equipment and technical know-how. The record number of delegates at the conference also indicates a greater interest on the part of industrial executives in pollution control.

It has been said that the concern for pollution is just a fad in which interest will gradually—or suddenly—disintegrate. If so (and we don't really believe it for a moment) all the signs were certainly absent among delegates to the conference.

Contingency Plan For Coping With Spills Goes Into Effect

Among the most publicized of pollution problems have been those associated with spills. To ensure that the most efficient methods are utilized in handling spills, Ontario has evolved a comprehensive and flexible plan.

Spills are the main target of a new contingency plan implemented recently by the Ontario Water Resources Commission. For several years the Commission has been developing methods for coping with spills of oil and hazardous materials. Recently an apparent proliferation of oil spills throughout the

world has underlined the urgent need for a sophisticated program for handling spills.

POTENTIAL HAZARD

Though Ontario has been free from large scale spills and pains are taken by many parties, including OWRC industrial investigators, to ensure that

precautionary measures are taken it is recognized that a spill—whether from a vessel, an industry, or an oil and gas drilling operation—presents a potential hazard at all times to the environment. The contingency plan seeks to reduce this hazard, primarily by providing a framework for the discovery and reporting of spills and by co-ordinating the resources necessary for their clean-up. The plan also aims to determine the responsibility for any spills that occur.

OPERATION CENTRE

To effect the contingency plan, an operation centre has been established at OWRC headquarters. The basis of the operation centre is flexibility. A variety of scientific and technical disciplines from within or without the Commission can be called upon to provide information or direction relevant to the handling of any spill. By prior arrangement, whenever the operation centre determines that a spill is sufficiently serious, other agencies—such as the Department of Mines and Northern Affairs, the Department of Lands and Forests, the Department of Highways, the Canada Department of Transport and the Ontario Provincial Police—who may have an interest or be able to provide assistance, will be contacted. Reciprocal arrangements have been made with U.S.

authorities for mutual assistance if required. Also, specialists manning the operation centre have at their fingertips a mass of up-to-date information—such as charts of spawning grounds and municipal water intakes—provided by the various agencies, which will be of invaluable aid in determining the best method of handling a spill.

A FLEXIBLE METHOD

Flexibility is also highlighted in the method being utilized, under the contingency plan, to ensure that material and equipment is available for the combat of a spill in any area.

In the past, coping with spills has sometimes been hampered by the time lag in getting needed equipment and materials to the scene of the mishap. The new operation centre has eliminated this factor to the greatest extent possible by drawing up an inventory of the equipment available for the control of spills at points all around the Great Lakes. This list will be further developed as more sources of equipment are established.

In a recent industrial oil spill on the Don River, in Toronto, the operation centre quickly secured needed equipment and assistance from the Toronto Harbour Commission.

URGENCY STRESSED

The importance of immediate notification and action in

the event of a spill has also been recognized by the contingency plan. Waves, currents and wind can vastly increase the area affected by a spill within just a few hours.

To come to terms with this factor, agencies involved in the contingency plan will practise stepped-up surveillance and personnel associated with the operation centre are stimulating the development of contingency plans on a smaller scale by both municipalities and industries.

All reports on spills are to be immediately directed to the operation centre which is ready to spring into action on a 24-hour basis. (Call 416-365-6954 days, 416-363-1211 after office hours.)

ALERT USERS

Additional responsibilities of the operation centre will be to alert all water users who potentially might be affected by a spill and to maintain up-to-date information on spill handling. In the event of a major spill command responsibilities would be undertaken by the operation centre except under certain circumstances involving a commercial vessel in which case the Canada Department of Transport would assume overall direction.

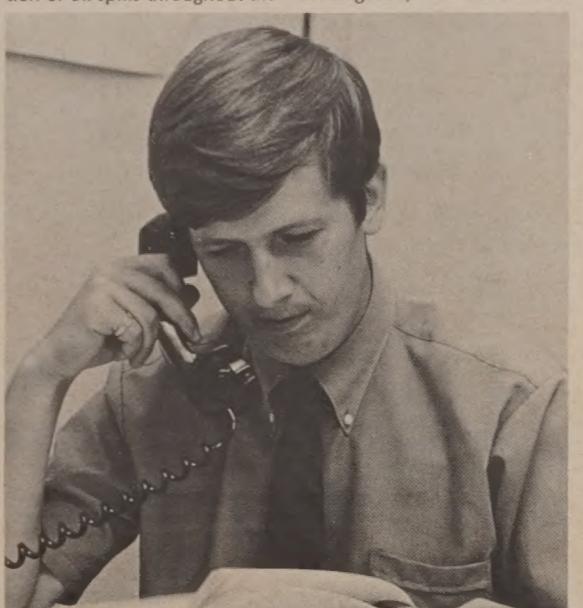
POSSIBILITY PERSISTS

Undoubtedly, the best method of handling the problem of spills is to take adequate pre-



AN OIL SPILL on the Don River, in Toronto, this summer generated the public interest and alarm typical of spills. Here a CBC cameraman records part of the clean-up operation. This clean-up was one of the first to be co-ordinated under the contingency plan.

cautionary measures to ensure they do not occur in the first place. In efforts to achieve this objective OWRC personnel constantly inspect industrial storage and waste handling facilities. In spite of any precautions that can conceivably be taken, however, the possibility of a spill—either through accident or negligence will likely continue to persist. By centralizing all communication, planning and efforts regarding spills the contingency plan, incorporating the operation centre, will provide a focal point for minimizing the hazard.



AN OPERATION CENTRE has been established at OWRC as part of contingency plan to ensure efficient handling of spills. Experts in contingency methods, such as Technologist Nick Vanderkooy, can be reached on 24-hour basis.

Complies With IJC Recommendations

New Program Launched To Curb Discharge Of Nutrients To Ontario's Rivers And Lakes

An aggressive new program to curb discharge of nutrients to provincial watercourses has been initiated by the Ontario Water Resources Commission.

The OWRC program will initially concentrate on controlling sources of phosphorus discharge in the St. Clair—Lake Erie and Lake Ontario—St. Lawrence drainage basins. (The discharge of phosphorus in sewage has been critically linked to the development of adverse algal conditions in some water-courses.) Priority

is to be given to municipal waste discharge sources greater than one million gallons per day or industrial waste sources where a significant phosphorus loading occurs. A recommended time schedule for clean-up will be established for municipal and industrial sources in the St. Clair River, Lake Erie and Niagara River basins, while OWRC studies will provide the basis for controlling nutrients from waste sources and land drainage in other areas of the province.

IN LINE WITH IJC REPORT

The program is in line with a special report, submitted by the International Joint Commission to the governments of Canada, the United States and Ontario, recommending that the governments implement at the earliest possible date an integrated program of phosphorus control in the Great Lakes drainage basin.

Measures specifically recommended in the IJC report include:

- the immediate reduction to a minimum practicable level of the phosphorus content of detergents and the total quantities of phosphorus-based detergents discharged into the basin with the aim of complete replacement of all phosphorus in detergents with environmentally less harmful materials by December 31, 1972;
- further reduction, as a matter of urgency, of the remaining phosphorus in municipal and industrial waste effluents discharging to Lake Erie, Lake Ontario and their tributaries

and to the International Section of the St. Lawrence River, with a view to achieving at least an 80 percent reduction by 1975;

- the reduction of phosphorus discharged to waters from agricultural activities;

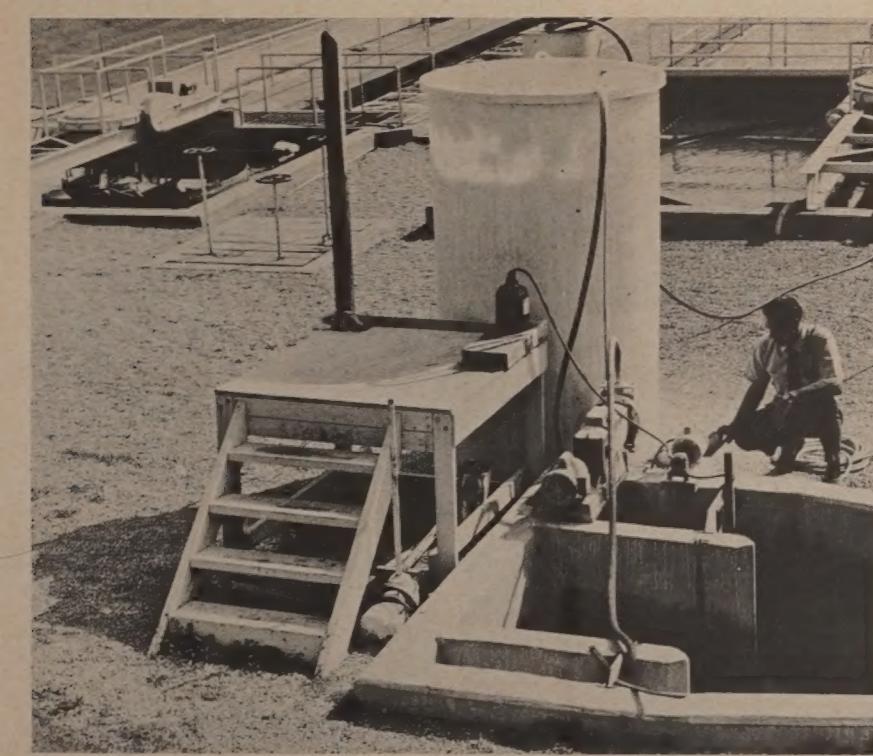
U.S. MAIN SOURCE

In implementing the OWRC program it is recognized that the bulk of the nutrient problem in the international areas of the Great Lakes basin is posed by U.S. sources. (According to the IJC report, by 1986—in the Lake Erie basin alone—86 percent of the anticipated phosphorus from municipal and industrial wastes before treatment for removal is expected to come from sources in the United States.) However, at a meeting held between Canadian and U.S. re-

presentatives in Ottawa on June 23, concerning the IJC report, the American representatives indicated acceptance of the report and announced a U.S. policy of achieving the objectives of the IJC by 1973.

Highly successful results achieved by OWRC in its nutrient removal experimentation will provide the backbone for the new program. Facilities achieving a high degree of nutrient removal have been operated by the Commission in plants at Richmond Hill and Sault Ste. Marie.

Right: Commission Technologist samples from clarifier subjected to lime treatment with murky sample from a second clarifier at the Richmond Hill plant not subjected to treatment.



Left: process utilizing lime for removal of nutrients in municipal sewage was successfully tested by OWRC at the Richmond Hill sewage treatment plant last year. The lime is added at the initial settling stage of treatment.

that, besides reducing the phosphorus and nitrogen content of sewage, the lime process markedly increased the efficiency of the entire treatment system.

The Newmarket-East Gwillimbury installation is to serve as a research facility for further

development and refinement of the process. The added facilities are being constructed to provide such flexibility that all or any part of the sewage flow can be made to receive nutrient removal treatment.

The Newmarket plant utilizes the conventional activated sludge sewage treatment process and has a design capacity of 2 million gallons per day.

AN EARLY METHOD

Lime played an important role in early methods of sewage treatment but, its full value

Nutrient Removal Process Will Be Installed At Newmarket-East Gwillimbury Plant

Full-scale facilities for nutrient removal, utilizing the lime process, will be installed this fall by the Ontario Water Resources Commission at the Newmarket - East Gwillimbury Water pollution control plant. Last year the Commission had highly satisfactory results

in experiments with lime conducted at the Richmond Hill treatment plant. Reductions of over 92 percent of the phosphorus content of sewage were then achieved as well as significant amounts of organic nitrogen. (Phosphorus and nitrogen are two nutrients, com-

monly associated with the development of algae in some watercourses. An excess of algae can adversely affect aquatic life and lead to the development of nuisance conditions).

Conventional secondary treatment removes only about 39 percent of phosphorus.

NUTRIENTS PRECIPITATED

In the treatment technique, lime is added to a conventional treatment system at an early settling stage to precipitate the nutrients. During the Richmond Hill trials it was found

in the nutrient removal process being unrecognized, it fell into disuse as modern methods of treatment were developed.

OWRC began preliminary investigations into methods for nutrient removal in 1956 and intensive investigations from 1964 onwards.





Great Shots Characterize 12th Annual Tournament

Perfect weather and excellent golf characterized this year's annual OWRC golf tournament—the 12th—held June 4 at the Aurora Highlands Golf Club.

177 golfers, consisting of 107 staff and 70 guests, vied for over 60 prizes ranging from golf balls to a tape recorder.

Most prominent among the prize winners was Jim Blanchard, plant maintenance operator, Port Colborne WPCP, who won the staff low gross trophy for the third year in a row with a score of 76 and Tom Walsh of Canadian Johns-Manville who carded a 72, which is only one over par for the course. In all, seven golfers shot 80 or better for the day which, compared to last year's best score of 81, indicates great golf shots were made this year.



CAMERA CATCHES spirit and zest of OWRC golf tournament held at the Aurora Highlands Golf Club. The Commission holds the tournament annually.

Optimum Population Size In U.S. Already Passed, Says Economist

Increasing population is beginning to lower living standards in the United States, rather than raise them, delegates to a recent conference on environmental problems, held in Chicago, were told.

Promoting the idea of a zero rate of population growth (rather than the current 2 percent rate in the

U.S.) Philip E. Sorenson, an economist at the State University of New York, contended that on a per capita income basis the optimum population size in the United States has probably already been passed.

NON-EXPANDING ECONOMY

"Some sectors of the econ-

omy stand to reap substantial benefits from a population boom—most particularly real estate and the resource-based industries," he said. "But a redistribution of the economic benefits of zero population growth would more than compensate for the losses of these sectors."

Speakers at the conference continually stressed that not enough study has been given to how a 'non-expanding' economy might work. "While our population doubles every

70 years, our energy requirements double every 10, increasing the per capita pollution from electric power plants," remarked Dr. Garrett Hardin, a University of California biologist, as he pointed out the pitfalls inherent in an economic system "based on an ideology of maximum production and maximum consumption."

PRESENT SYSTEM DATED

Former Secretary of the Interior Stewart L. Udall, presently an environmental

consultant, cautioned against dubbing environmentalists "an angry wave of machine smashers."

"We believe something is seriously wrong with a system that creates a fat life of empty affluence but can't even learn to recycle its wastes or build livable cities," he said. "The current economic system . . . may have been appropriate in 1932 or 1945, but it could lead us down a path to disaster in the remaining years of this century."

Thermal Pollution Called A Threat To Lake Erie Stocking Program

Warm water being discharged from electric power plants along the U.S. side of Lake Erie are endangering a coho salmon stocking program implemented by state agencies, according to officials in the Federal Water Quality Administration and the U.S. Bureau of Commercial Fisheries.

Over 900,000 yearling coho have been planted in tributaries of Lake Erie by state conservation departments in the past two years. The thermal threat is from fourteen electric plants located between Port Hope and Toledo

which discharge heated water reaching the lake.

The federal officials say that the added heat is raising the temperature of the receiving waters to a point near the critical level for survival of the salmon and other cold-water oriented fish such as walleye and yellow perch. They urge that cooling towers be installed and that no heated water be added to the lake until "adequate research" is conducted.

Three new electric plants are currently planned for the U.S. side of Lake Erie.

By-Law Course To Be Held At Laboratory

A three-day industrial waste by-law enforcement course will be held September 23-25 at the laboratories of the Ontario Water Resources Commission.

The course will cover the varied aspects of industrial waste control and enforcement for municipal officials, consultant engineers, industrialists and others

who might become involved in this area of waste control. Subjects to be covered during the course include sewer-use by-laws, surcharges, sampling, flow measurement, industrial waste characteristics, effects of industrial wastes on treatment of sewers, and public relations.

Further information con-

cerning application for the course may be obtained by writing to: K. H. Shikaze, program engineer, Ontario Water Resources Commission, division of industrial wastes.

The by-law enforcement course was introduced last year and met with instant success.

Nature And Man

A
Touch
Of
Brightness

One bright spot in the North American pollution picture has been the wholeheartedness with which the public, in general, has entered the campaign against further environmental degradation.

Despite the predictions of skeptics who feel that the concern evinced by the majority over pollution is "just a fad", public interest in pollution problems and in methods of solving them continues to increase. The newsmedia continue to give pollution news top priority and teachers are increasingly incorporating material on pollution as a

standard feature of their courses.

Once, too, conservationists were a small (and relatively subdued) minority. Now the ranks have swelled. Modern proponents of conservation are very vocal—and it appears we are on our way to training a nation of part-time conservationists.

The importance of public groups in curbing pollution should not be underestimated. Limited staff and budget make it impossible for government regulatory agencies to be aware of or to correct all pollution problems. Public groups and individuals have been of inestimable service in reporting specific prob-

lems to the regulatory agencies; some have even initiated 'survey' and cleanup projects on their own. Government projects such as those associated with pollution abatement on recreational lakes would proceed much more tediously without the support of groups like cottage associations.

A skeptic can, of course, still insist that in future the public will become apathetic. But he must at least concede that we're off to a good start and that public support has made good water management policies more easily implemented.

Ceremonies Mark Construction At Haileybury And Stayner

Two inauguration ceremonies—marking the beginning of construction of the

Haileybury - Bucke township water supply system and the Stayner water pollution con-

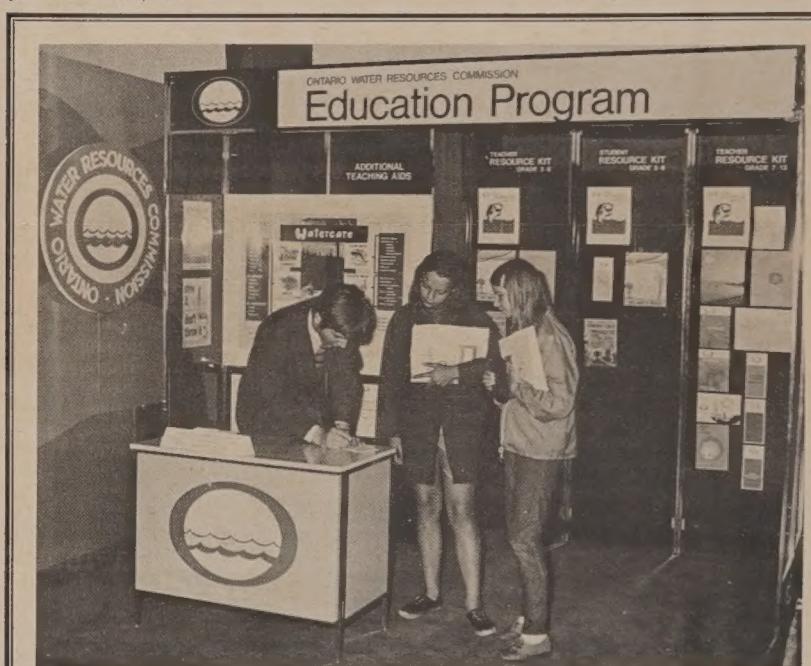
trol system—were held late in July.

The water supply system—to be constructed at an estimated cost of \$1,893,000—will provide the combined areas of Haileybury and Bucke township with a modern and efficient service which will allow for future growth and development. In conjunction with the water system, the township of Bucke is installing a complete water pollution control system consisting of sewers, pumping stations and a waste stabilization lagoon. Estimated cost for this project is \$480,500.

Haileybury already has a modern and efficient waste treatment plant.

The Stayner water pollution control system is to consist of sewers and service connections, an underground pre-fabricated pumping station, a forcemain and a waste stabilization pond for the treatment of community wastewater. Projected cost is \$950,000.

OWRC COMMISSIONER D. A. Moodie (seated on back-hoe) with (l. to r.) Rev. A. W. Downer, MPP for Dufferin-Simcoe, Mayor E. Dority of Stayner, and P. V. Noble, MP for Grey-Simcoe, officiated at the inauguration ceremony marking the commencement of construction of the Stayner water pollution control system.



Education On Tour

In summer months OWRC goes throughout the province, via its displays, to explain aspects of water management to the public.

In above photo information is given to two young visitors to the Commission booth at the Thunder Bay exhibition. The display

has been designed to present the educational aids and water resource reference kits available to libraries, resource centres and teachers in schools throughout the province.

The display attends many fairs and exhibitions in Ontario.



AT INAUGURATION CEREMONY (l. to r.) K. M. Buffam, mayor of Haileybury, J. H. H. Root MPP, vice-chairman of OWRC, and M. B. Daniels, reeve of Bucke township, watch preliminary sod-turning.

Officials of the Ontario Water Resources Commission and representatives of all levels of government participated in the ceremonies.

The projects are being financed by a provincial plan under which the communities will pay for the service on a use-basis only.

New U.S. Agency Planned To Deal With Pollution

An independent new agency is planned by the Nixon administration to deal with pollution problems in the U.S.

The agency is to bring under one central authority water pollution, air pollution, solid waste management, pesticide standards and control, and radiation regulations. Currently, pollution problems are handled by a variety of agencies. Programs for which the new agency will be responsible now have a budget of about \$300 million.

A big surprise in the move was the transfer of radiation regulation from the Atomic Energy Commission to the new agency (tentatively named the Environmental Protection Administration). Critics of AEC have charged it cannot effectively regulate

atomic power when it is also promoting its use through large research and development programs.

The administration also plans to establish a second organization (the Oceanographic and Atmospheric Administration) to cope with environmental problems and policies. It will incorporate eight separate federal agencies now in existence with budgets totalling more than \$200 million. This agency is to deal mainly with long term problems and planning.

The two new plans are partly the result of a Commission which reported to the administration that problems were too large and complex to be managed efficiently by a number of separate agencies.

Pollution Congress Calls For Changes Of Attitude

Changes of attitude and values by people in every field of endeavor are necessary to meet present-day challenges to the environment according to recommendations presented at the first Congress on Optimum Population and Environment, held recently in Chicago.

Among the recommendations presented in reports from various work groups at the congress were:

- Compensation for social, environmental, and aesthetic damage from pollution by government or industry.
- An agency to affix a seal on ecologically approved products.
- A change in teaching methods to provide a back-

ground for learning and coping with new problems.

Also recommended was protection of other countries from U.S. exploitation and manipulation of natural resources, and the implementation of costing systems to prevent polluters from relocating dirty operations.

Full reports of the work groups along with recommendations are to be presented to President Nixon.

Accusations Flare At Federal/State Conference

Accusations flared on both sides at a recent U.S. federal-state conference, held in Detroit, to discuss abatement of pollution in the Lake Erie basin.

Pointing out that 78 of 110 municipalities and 44 of 130 industries in the basin were behind in the Lake Erie clean-

up program, federal investigators charged that most cities and many industries were lagging behind in meeting their pollution control obligations. Forty-five of the cities and 38 of the industries were said to be more than a year behind schedule.

The federal government was accused of failing to pro-

vide promised money. State officials claimed that local funds were "running short" because federal grants did not arrive.

An investigation was planned by the federal government to determine why the clean-up program was being delayed.



MEMBERS OF POLLUTION PROBE receive briefing from OWRC staff at special meeting. This summer Probe members are moving throughout recreational areas of the province advising on pollution control methods.

Recreational Areas Visited In Probe Summer Program

An educational program conceived by *Pollution Probe* at the University of Toronto has received the financial support of OWRC.

The Probe workers are visiting camps, cottage associations, resort owners and municipal leaders throughout the resort areas of Ontario to emphasize the necessity for water pollution control and good garbage disposal techniques. Displays, films and lectures on steps that can be taken by individuals to curb

pollution in resort areas are included in the Probe program.

Information on malfunctioning waste treatment systems and on any other pollution problems discovered is being directed to OWRC by the Probe members.

The Commission is providing financing for the services and expenses of two teams operating under the summer program.

O News Round-up

- A brochure prepared by the public health engineering service of the Ontario Department of Health entitled *The Cottage The Lake And You* explains the problems associated with the pollution of recreational lakes. Describing the conditions that lead to this type of pollution, it explains what the Province is doing via its pollution program in the cottage areas and what the cottager can do to help government survey teams.

The brochure is available through the communications branch, Ontario Dept. of Health, 1, St. Clair Ave. W.

- The Gravenhurst Electric Light and Water Commission has thought of a novel way to encourage the use of low phosphate soaps and detergents. On each copy of the public utility bill, sent out by the Commission, is a list indicating the phosphate content of various washing compounds.

The bill suggests that soaps and detergents low in phosphate content be used.

- A booklet produced by *Pollution Probe* at the University of Toronto explains the mechanics and requirements of sewage disposal in cottage areas. Well illustrated, it describes the operation of all types of systems—from the pit privy to the small sewage treatment plant.

It also explains the function of government agencies involved in pollution control and suggests sources of additional information.

Program Establishes Guidelines For Water Management

Continued from front page

of water resources, H. A. Clarke, asst. director, division of industrial wastes, P. J. Osmond, regional supervisor, division of plant operations, C. E. Simpson, supervisor, chemistry branch and C. F. Schenk, supervisor, biology branch, division of laboratories.

The guidelines emphasize that it is implicit that a constant effort be made to protect and where possible to improve the quality of water

so that future generations may use and enjoy Ontario's immense water resources.

This is a concept which has been developed from informal guidelines used by OWRC for the last few years. With the formalization of the criteria, the citizens of Ontario will know the standards for each watercourse and expect that no pollution will be allowed which will cause deterioration of that standard.



Monitor III in Commission

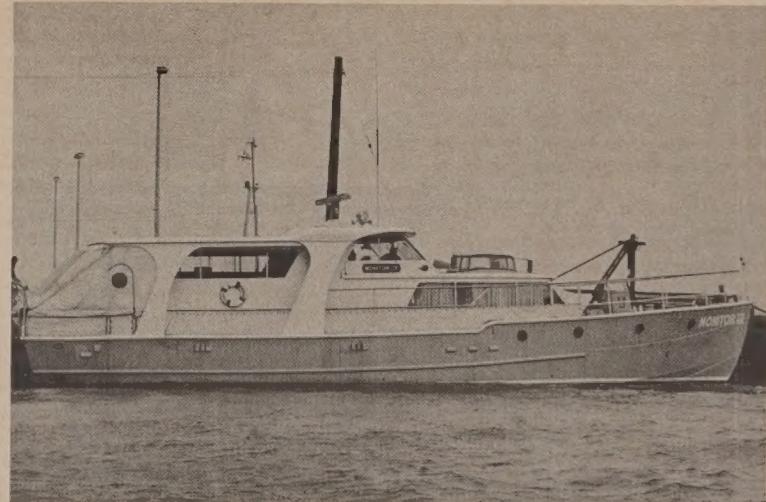
Having made two surveys of Lake Ontario and one of Lake Erie since March, the new flagship of OWRC's Great Lakes 'fleet,' Monitor III, now has her sea-legs.

The Lake Ontario surveys, commenced in March, covered the area from Niagara to Kingston. The vessel investigated the entire north shore area in the Lake Erie survey. At press time Monitor III was just embarking upon a survey of Lake Huron and Georgian Bay.

On-board laboratory facilities permit analysis of water for pH, alkalinity, dissolved oxygen, temperature and chlorophyll. The crew of five consists of two vessel operators and three scientific and technical staff. The survey craft has sleeping accommodations for eight, a galley and, of course, a holding tank.

The Commission also operates two smaller vessels in its Great Lakes survey program.

Left: OWRC's new flagship is equipped with modern laboratory facilities utilized for basic analyses. Below: Monitor III shows her 'sea-lines'.



Investigations Reveal Aswan Dam Threatening Aquatic Life In Eastern Mediterranean

The Aswan High Dam in Egypt, constructed in 1964, is causing changes in the waters of the eastern Mediterranean — most of them adverse — according to marine scientists at the University of Beirut.

Studies conducted by the scientists indicate that there has been a drastic reduction in the fish population of the area, attributable to the dam. The catch of the Egyptian sardine fisheries declined from 18,000 tons in 1965 to 500 tons in 1968. The popu-

lation of other species has declined more gradually but significantly, the scientists say. Their investigations revealed that the drop in fish catch is linked to a break in the aquatic food chain caused by 'impounding', behind the dam, nutrients normally washed out to sea by the Nile. In the past, these nutrients stimulated the development of minute aquatic life which formed a basic 'food' in the aquatic environment of the area.

The researchers also found

that, because the water of the Nile is being used to draw salt from previously uncultivated land, the eastern Mediterranean is becoming saltier. Before the dam was constructed a seasonal drop in the salinity of the waters in the area occurred. Measurements taken by the scientists indicate that the seasonal drop no longer occurs. According to a biologist on the investigating team, the salinity is approaching the limit of tolerance for some species of fish.